



The Solutions Network

Rochester, New York

USMC AFV AND HYBRID VEHICLES

OBSTACLES SOLUTIONS

1

GSA HONDA CIVIC HYBRID



- SUB-COMPACT VEHICLE WITH A BASE LEASE COST OF \$148.00
- INCREMENTAL COST OF APPROX \$9,000
- WET-LEASE MILEAGE COST OF APPROX. .08-.085 CENTS PER MILE
- SERVICE LIFE OF 4 YEARS (GSA LEASE TERM)
- NEEDS TO BE UTILIZED IN HIGH MILEAGE MISSIONS
- DIRECT IMPACT ON THE EXECUTIVE ORDER 13149 FUEL REDUCTION REQUIREMENT
- DOES NOT QUALIFY AS AN ALTERNATE FUELED VEHICLE

2005 FORD ESCAPE HYBRID



- MEETS THE NEED FOR SUV 4X4 CAPABILITY
- ADVERTISED TO BE CAPABLE OF 40 MPG
- FORD PLANS TO PRODUCE 20,000 UNITS IN 2005
- FORD HAS ORDERS FOR 30,000 UNITS
- HOPEFULLY, GSA WILL PROVIDE SOME UNITS TO DIFFERENT AGENCIES

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3

OBSTACLES WITH HYBRIDS



- AVAILABILITY OF DIFFERENT CLASSES OF VEHICLES
- VERY HIGH INCREMENTAL COSTS
- PRODUCTION LIMITATIONS
- LONG RANGE MAINTENANCE COSTS
- ABILITY TO OBTAIN LARGER NUMBERS OF UNITS

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4

POSSIBLE HYBRID SOLUTIONS



- GSA NEEDS TO EXTEND THE SERVICE LIFE TO SPREAD THE LOAD OF THE INCREMENTAL COST
- WE NEED TO LET THE MANUFACTURERS KNOW THAT WE NEED, AND WILL PROCURE HYBRID VEHICLES
- FIND LOCATIONS WHERE HIGH USAGE IN MILES IS REALIZED AND CONCENTRATE HYBRID VEHICLES IN THOSE AREAS. TAKE FULL ADVANTAGE OF THE TECHNOLOGY
- SHARE INFORMATION WITH OTHERS ABOUT POSSIBLE MAINTENANCE PROBLEMS AND HOW TO AVOID THEM.

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5

WHAT IS THE REAL COST OF HYBRIDS



Hybrid Sedan Analysis

- 3200 Recruiting Station vehicles:
- Sur-Charge produces \$384K: (\$10 per month per vehicle)
- Incremental cost of Hybrid sedan \$8,729:
- Sur-Charge procures 44 Hybrid sedans:
- Recruiters travel approx. 20K miles annually:

Compact sedan \$168 monthly base lease + .105 cents per mile:

Sub-compact sedan \$148 monthly base lease + .095 cent per mile;

Projected Hybrid costs

Sub-compact sedan \$148 monthly base lease + .08 cents per mile:

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6



Annual savings/ROI

- \$240 annual in base lease cost each, \$10,560 annual w/44 Hybrids:
- \$1,500 annual per mile cost each, \$66,000 annual w/44 Hybrids:
- \$76,560 annual savings w/44 Hybrids:
- 552 annual gallons each, 24,288 annual gallons w/44 Hybrids:
- \$1,740 annual savings per Hybrid sedan X 4 year service life = \$6,960:
- $\$8,729 - \$6,960 = \$1,769$ over 4 years = \$442.25 per year \$36.85 per month:

note:

miles per gallon calculations based on;

compact sedan 21 miles per gallon:

sub-compact Hybrid 50 miles per gallon:

Monthly/mileage costs are FY04 GSA lease costs:

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7

E-85 FLEX-FUEL VEHICLES



•GSA PROVIDES A GOOD SELECTION OF E-85 POWERED SEDANS, PICKUPS, AND VANS

•INCREMENTAL COSTS ARE LOWEST OF ALL AFV's

•E-85 IS A BLEND OF 85% ETHANOLE 15% GASOLINE

•VEHICLE BURNS UNLEADED GASOLINE OR E-85

•USE OF E-85 VEHICLES AND FUEL DIRECTLY IMPACTS EXECUTIVE ORDER 13149 AND EARNS 1 AFV CREDIT TOWARDS EPA Act 1992

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8

OBSTACLES WITH THE USE OF E-85



- LACK OF INFRASTRUCTURE
- LACK OF FUNDS FOR INFRASTRUCTURE
- DESC IS JUST NOW COMING ON BOARD WITH ALTERNATE FUELS
- WHEN E-85 IS AVAILABLE, OPERATORS WILL NOT USE
- ENVIRONMENTAL ISSUES ON BOTH COASTS BLOCK CONSTRUCTION OF NEW FUEL SITES
- WHEN E-85 IS UTILIZED IT IS OFTEN NOT REPORTED FROM THE FUEL SITE

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9

POSSIBLE SOLUTIONS



- LEADERSHIP NEEDS TO GET INVOLVED
 - FIND WAYS TO “MAKE IT HAPPEN”, TEAM WITH ALL CONCERNED AND DEVELOP A “HOW CAN WE GET THIS DONE” ATTITUDE
 - REQUIRE THE USE OF E-85 WHEN AN OPERATOR IS WITHIN 15 MILES OF A FUEL SITE
 - PROVIDE THE NEEDED FUNDS TO CREATE INFRASTRUCTURE
- FIX THE PROBLEM OF REPORTING OF THE FUEL USAGE

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10

COMPRESSED NATURAL GAS



- COMPRESSED NATURAL GAS POWERED VEHICLES COMES IN TWO TYPES
- CNG DEDICATED, “2 AFV CREDITS” WILL ONLY USE CNG FUEL
- CNG2 “1 AFV CREDIT” IS A BIFUEL VEHICLE THAT WILL USE CNG OR UNLEADED GASOLINE
- CNG HAS A DIRECT IMPACT ON THE EXECUTIVE ORDER 13149
- CREDITS COUNT TOWARDS EPA 1992

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11

OBSTACLES WITH CNG VEHICLES



- INFRASTRUCTURE, VERY EXPENSIVE AND NEEDS NATURAL GAS
- REDUCED RANGE ON DEDICATED VEHICLES
- MANUFACTURES ARE NOT PRODUCING THE VEHICLES AS BEFORE
- MAINTENANCE OF FUEL SITE
- OPERATORS ARE RELUCTANT TO USE CNG IN CNG2 VEHICLES BECAUSE OF EXTENDED OR SLOW FUELING TIME
- CNG IS REPORTED TO BE IN SHORT SUPPLY

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12

POSSIBLE SOLUTIONS TO CNG



- AGAIN, LEADERSHIP NEEDS TO BE INVOLVED
- REQUIRE THAT ONLY CNG DEDICATED VEHICLES ARE PROCURED
- INVEST IN THE UPKEEP AND DEVELOPMENT OF CNG INFRASTRUCTURE
- MANAGE REPLACEMENT CYCLES AND VEHICLES TO OPTIMISE THE BENEFITS OF CNG VEHICLES
- EDUCATE FROM THE TOP DOWN OF THE LASTING BENEFITS OF CNG

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13

FUEL CELL VEHICLES



- CONVERTS A LIQUID/GASOUS FUEL (HYDROGEN) INTO ELECTRICITY
- THERE IS NO COMBUSTION IN THE PROCESS
- THE BY PRODUCT OF THE PROCESS IS WATER
- SINCE IT IS A DEDICATED ALTERNATE FUEL THERE SHOULD BE MULTIPLE AFV CREDITS
- HYDROGEN CAN BE EXTRACTED FROM ALL PETROLEIUM FUELS, EVEN WATER
- REFORMERS CAN BE INSTALLED AT HOME FOR REFUELING

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14

OBSTACLES TO FUEL CELLS/HYDROGEN



- FEAR OF THE UNKNOWN
- COSTS OF INFRASTRUCTURE
- VEHICLES ARE VERY EXPENSIVE (UPWARDS TO \$1M)
- VEHICLE PERFORMANCE IS EFFECTED BY WEATHER CONDITIONS
- AVAILABILITY OF VEHICLES
- SHOPS REQUIRE SPECIAL VENTING AND SAFETY MEASURES

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15

POSSIBLE SOLUTIONS



- EDUCATE EVERYONE ON THE SAFE OPERATION OF FUEL CELLS
- INVOLVE LEADERSHIP IN GETTING VISION FOR THE FUTURE
- PARTNER WITH FORWARD THINKING ORGANIZATIONS WILLING TO SHARE THE COSTS
- BE WILLING TO ADAPT (CHANGE) TO THE FUTURE OF THE AUTOMOTIVE INDUSTRY
- TO SOME DEGREE WE MUST BE RISK TAKERS AND STEP OUTSIDE OF THE BOX

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16

BIODIESEL (B-20)



- RENEWABLE FUEL
- EVERY 2,250 GALLONS OF B-20 EARNS 1 AFV CREDIT
- EVERY GALLON OF B-20 REDUCES DIESEL CONSUMPTION BY 20%
- MARINE CORPS EARNED 334 AFV CREDITS IN 2003 (FAST) WITH NO PROBLEMS
- EASY TO CONVERT A DIESEL TANK TO BIODIESEL USE



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